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10/581,286	04/02/2007	Sung Wan Park	1630-0539PUS1	3176

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EXAMINER	
SHIBRU, HELEN	

ART UNIT	PAPER NUMBER
2621	

NOTIFICATION DATE	DELIVERY MODE
02/22/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/581,286	PARK, SUNG WAN	
	Examiner	Art Unit	
	HELEN SHIBRU	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 January 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6,10-18 and 20-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4, 6, 10-18, 20-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01/19/2010 has been entered.

Response to Amendment

2. The amendments, filed 01/19/2009, have been entered and made of record. Claims 1-4, 6, 10-18, 20-22 are pending.

Response to Arguments

3. Applicant's arguments with respect to claims 1-4, 6, 10-18, and 20-22 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-4, 6, 10-11, 13-18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanamura (US PG PUB 2001/0033619 A1) in view of Zimmerman (US Pat. No. 7, 120, 168).

Regarding claim 1, Hanamura teaches a method for transcoding an audio/video (A/V) stream, the method comprising: dividing a compressed digital A/V stream into audio and video data (see demultiplexer 610 in figure 1 where the prior art shows the audio, the video, and the other data are demultiplexed); transcoding the divided video data (see unit 640 where the video data is only transcoded after demultiplexing the inputted transport stream); synchronizing the divided audio data with the transcoded video data (see paragraphs 0280, 0314, 0325, and figure 9 where the prior art teaches the non reduction Ts packet is an audio data and the transcoded video data is synchronized with the non reduction TS packet) by matching Presnentation Time Stamps (PTSs) of audio and video data (see the response above and (see paragraphs 0244, 0320, and 0325 audio and video are synchronized by matching the value of audio and video PTSs); and packetizing the synchronized audio and video data into a digital A/V stream (see figure 1 where it shows, MPEG-2 TS multiplexer 620, the audio and the transcoded video multiplexed and MPEG-2 transport stream is outputted, see also figure 6 and paragraph 0330).

Claim 1 differs from Hanamura in that the claim further requires assigning a new PTS value for the audio data based on the video data.

In the same field of endeavor Zimmerman teaches teaches comparing the audio time stamp with a current value of system time clock and activate the audio decoder when the audio time stamps are equal to the current time value of the system (see col. 5 lines 1-8). Zimmerman further teaches resynchronizing the output frame timings in accordance with the current video output timestamps and audio output timestamps (see

figure 8, col. 8 lines 50-62 and col. 9 lines 4-24). See figure 8 steps 834-842 which shows resynchronize output timing according to PTS. See also col. 7 lines 32-46. Therefore in light of the teaching in Zimmerman it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Hanamura by providing a new PTS value to audio data in order to perform an output timing resynchronization procedure following a program change event to align output timings of the processed frames in accordance with a new output timestamps from the selected program.

Regarding claim 2, Hanamura teaches the transcoding comprises reducing a bit rate of the video data (see figure 5, paragraphs 245, 255 and 280 where the prior art teaches the output bit rate is reduced, see also figure 6 where the prior art shows the video data goes to the process of transcoding where the bit rate of the video data is reduced).

Note to the Applicant: The USPTO considers the Applicant's "or" and "at least one" language to be anticipated by any reference containing one of the subsequent corresponding elements.

Regarding claim 3, Hanamura teaches the bit rate of the video data is reduced by reducing a frame size and a frame rate of the video data (see paragraphs 0265 and 0312, the size and the rate of the video data are reduced).

Regarding claim 4, Hanamura teaches the digital A/V stream is compressed based on an MPEG standard (see figure 1 where the prior art shows MPEG-2 TS is inputted and outputted).

Regarding claim 6, Hanamura discloses original PTSs of video data before the video data is transcoded are used for the transcoded video data (see paragraphs 0325 and 0329, the PTS located at the header of the inputted video stream is used for the transcoded data).

Regarding claim 10, Hanamura discloses temporarily storing the divided audio data before synchronizing the divided audio data with the transcoded video data (see the non reduction buffer 230 in figure 6 and paragraphs 0285 and 0314).

Regarding claim 11, Hanamura discloses a size of a buffer for temporarily storing the audio data is determined based on both a time required to transcode the video data and a bit rate of the audio data (see paragraphs 0408, 0418, and 0420 where the prior art teaches the measuring the volume of the audio buffer is measured by transcoding time and the rate of the audio data).

Regarding claim 13, Hanamura discloses transmitting the packetized digital A/V stream (see paragraph 0279 and last three lines of claim 14, the output packets are t transmitted through transmitting path).

Regarding claim 14, Hanamura teaches receiving the compressed digital A/V stream is via a digit al broadcast (see paragraph 0268).

Regarding claim 15, Hanamura discloses an apparatus for transcoding a digital audio/video (A/V) stream, the apparatus comprising: a demultiplexer configured to divide a compressed digital A/V stream into audio and video data (see demultiplexer 210 in figure 6 where the prior art shows the non-reduction buffer (audio), and the video are demultiplexed); a buffer configured to temporarily store the divided audio data (see

non reduction buffer 230 in figure 6); a transcoder configured to transcode the divided video data (see video ES transcoder 244 in figure 6); a synchronizer configured to synchronize the divided audio data with the transcoded video data see paragraphs 0280, 0314, 0325, and figure 9 where the prior art teaches the non reduction Ts packet is an audio data and the transcoded video data is synchronized with the non reduction TS packet) by matching Presentation Time Stamps (PTSs) of the audio and video data (see the above response and rejection of claim 1 above); and a packetizer configured to packetize the synchronized audio and video data into a digital A/V stream (see paragraphs 0330 and figure 6, MPEG-2 TS multiplexer 220, the audio and the transcoded video multiplexed and MPEG-2 TS is outputted).

Claim 15 differs from Hanamura in that the claim further requires assigning a new PTS value for the audio data based on the video data.

In the same field of endeavor Zimmerman teaches teaches comparing the audio time stamp with a current value of system time clock and activate the audio decoder when the audio time stamps are equal to the current time value of the system (see col. 5 lines 1-8). Zimmerman further teaches resynchronizing the output frame timings in accordance with the current video output timestamps and audio output timestamps (see figure 8, col. 8 lines 50-62 and col. 9 lines 4-24). See figure 8 steps 834-842 which shows resynchronize output timing according to PTS. See also col. 7 lines 32-46. Therefore in light of the teaching in Zimmerman it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Hanamura by providing a new PTS value to audio data in order to perform an output timing

resynchronization procedure following a program change event to align output timings of the processed frames in accordance with a new output timestamps from the selected program.

Regarding claim 16, the limitation of claim 16 can be found in claims 2 and 3 above. Therefore claim 16 is analyzed and rejected for the same reasons as discussed in claims 2 and 3.

Regarding claim 17, Hanamura discloses original PTSs of the video data before the video data is transcoded are arranged to synchronize the divided audio data with the transcoded video data (see paragraphs 0325 and 0329, the inputted PTS values are used to synchronize and the reduced data and the non reduced data).

Regarding claim 18, Hanamura teaches the transcoder and synchronizer are adapted so that transcoding and the synchronizing are performed on a section-by-section basis, each section having continous PTS values (see figure 116, paragraphs 0434, 0441, and 0447 where the prior art teaches number of frames are transcoded in section with PTS values assigned to each).

Claim 20 is rejected for the same reasons as discussed in claim 11 above.

6. Claims 12, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanamura in view of Zimmerman and further in view of Official Notice.

Regarding claim 12, although Hanamura discloses a storage medium having transcoding coding, Hanamura fails to disclose recording the outputted packetized digital A/V stream to a recording medium. Official Notice is taken that it is notoriously

well known to connect the Hanamura's multiplexer, 620, to a digital recording device to record the lowered bit rate stream in to a recording medium. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above combination by adding a recording device to record the digital stream in to the digital recording medium in order to produce the digital stream multiple times.

Regarding claim 21, the limitation of claim 21 can be found in claims 12 and 14. Therefore claim 21 is analyzed and rejected for the same reason as discussed in claims 12 and 14 above.

Regarding claim 22, although Hanamura discloses transmitting the packetized digital A/V stream, Hanamura fails to specifically teach a transmitter configured to transmit the stream of data to a client computer through a communication network. Official Notice is taken that it is notoriously well known in the data transmitting and receiving art to transmit packetized transport stream to a client computer using communication network. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above combination by transmitting the packetized stream to a computer via a network in order to create a more cost-effective interactive video system that eliminates location constraints.

7. Claims 1-4, 6, 10-11, 13-18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanamura (US PG PUB 2001/0033619 A1) in view of Kato (US Pat. No. 7,088,725).

Regarding claim 1, Hanamura teaches a method for transcoding an audio/video (A/V) stream, the method comprising: dividing a compressed digital A/V stream into

audio and video data (see demultiplexer 610 in figure 1 where the prior art shows the audio, the video, and the other data are demultiplexed); transcoding the divided video data (see unit 640 where the video data is only transcoded after demultiplexing the inputted transport stream); synchronizing the divided audio data with the transcoded video data (see paragraphs 0280, 0314, 0325, and figure 9 where the prior art teaches the non reduction Ts packet is an audio data and the transcoded video data is synchronized with the non reduction TS packet) by matching Presnentation Time Stamps (PTSs) of audio and video data (see the response above and (see paragraphs 0244, 0320, and 0325 audio and video are synchronized by matching the value of audio and video PTSs); and packetizing the synchronized audio and video data into a digital A/V stream (see figure 1 where it shows, MPEG-2 TS multiplexer 620, the audio and the transcoded video multiplexed and MPEG-2 transport stream is outputted, see also figure 6 and paragraph 0330).

Claim 1 differs from Hanamura in that the claim further requires assigning a new PTS value for the audio data based on the new PTS value of video data.

In the same field of endeavor Kato shows in figure 6 delaying non-video TS packet (referring to assigning new value to the audio packet) until the right time (see step 1 and 4 of figure 6). See also col. 7 lines 4-64. The switch 16, as shown in figure 4, will be controlled by the controller 19 to turn an output thereof to the input terminal a and provide the video TS packet. Kato further teaches the present time, which is elapsed time from a time when the video TS packet separator 10 was supplied with TS, is a time to provide non-video TS packets on the time base of TS. Therefore in light of the

teaching in Kato it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hanamura by providing a new PTS value to the divided audio data based on the transcoded video data in order to synchronize the audio data with the corresponding video data.

Regarding claim 2, Hanamura teaches the transcoding comprises reducing a bit rate of the video data (see figure 5, paragraphs 245, 255 and 280 where the prior art teaches the output bit rate is reduced, see also figure 6 where the prior art shows the video data goes to the process of transcoding where the bit rate of the video data is reduced).

Note to the Applicant: The USPTO considers the Applicant's "or" and "at least one" language to be anticipated by any reference containing one of the subsequent corresponding elements.

Regarding claim 3, Hanamura teaches the bit rate of the video data is reduced by reducing a frame size and a frame rate of the video data (see paragraphs 0265 and 0312, the size and the rate of the video data are reduced).

Regarding claim 4, Hanamura teaches the digital A/V stream is compressed based on an MPEG standard (see figure 1 where the prior art shows MPEG-2 TS is inputted and outputted).

Regarding claim 6, Hanamura discloses original PTSs of video data before the video data is transcoded are used for the transcoded video data (see paragraphs 0325 and 0329, the PTS located at the header of the inputted video stream is used for the transcoded data).

Regarding claim 10, Hanamura discloses temporarily storing the divided audio data before synchronizing the divided audio data with the transcoded video data (see the non reduction buffer 230 in figure 6 and paragraphs 0285 and 0314).

Regarding claim 11, Hanamura discloses a size of a buffer for temporarily storing the audio data is determined based on both a time required to transcode the video data and a bit rate of the audio data (see paragraphs 0408, 0418, and 0420 where the prior art teaches the measuring the volume of the audio buffer is measured by transcoding time and the rate of the audio data).

Regarding claim 13, Hanamura discloses transmitting the packetized digital A/V stream (see paragraph 0279 and last three lines of claim 14, the output packets are t transmitted through transmitting path).

Regarding claim 14, Hanamura teaches receiving the compressed digital A/V stream is via a digit al broadcast (see paragraph 0268).

Regarding claim 15, Hanamura discloses an apparatus for transcoding a digital audio/video (A/V) stream, the apparatus comprising: a demultiplexer configured to divide a compressed digital A/V stream into audio and video data (see demultiplexer 210 in figure 6 where the prior art shows the non-reduction buffer (audio), and the video are demultiplexed); a buffer configured to temporarily store the divided audio data (see non reduction buffer 230 in figure 6); a transcoder configured to transcode the divided video data (see video ES transcoder 244 in figure 6); a synchronizer configured to synchronize the divided audio data with the transcoded video data see paragraphs 0280, 0314, 0325, and figure 9 where the prior art teaches the non reduction Ts packet

is an audio data and the transcoded video data is synchronized with the non reduction TS packet) by matching Presentation Time Stamps (PTSs) of the audio and video data (see the above response and rejection of claim 1 above); and a packetizer configured to packetize the synchronized audio and video data into a digital A/V stream (see paragraphs 0330 and figure 6, MPEG-2 TS multiplexer 220, the audio and the transcoded video multiplexed and MPEG-2 TS is outputted).

Claim 15 differs from Hanamura in that the claim further requires assigning a new PTS value for the audio data based on the new PTS value of video data.

In the same field of endeavor Kato shows in figure 6 delaying non-video TS packet (referring to assigning new value to the audio packet) until the right time (see step 1 and 4 of figure 6). See also col. 7 lines 4-64. The switch 16, as shown in figure 4, will be controlled by the controller 19 to turn an output thereof to the input terminal a and provide the video TS packet. Kato further teaches the present time, which is elapsed time from a time when the video TS packet separator 10 was supplied with TS, is a time to provide non-video TS packets on the time base of TS. Therefore in light of the teaching in Kato it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hanamura by providing a new PTS value to the divided audio data based on the transcoded video data in order to synchronize the audio data with the corresponding video data.

Regarding claim 16, the limitation of claim 16 can be found in claims 2 and 3 above. Therefore claim 16 is analyzed and rejected for the same reasons as discussed in claims 2 and 3.

Regarding claim 17, Hanamura discloses original PTSs of the video data before the video data is transcoded are arranged to synchronize the divided audio data with the transcoded video data (see paragraphs 0325 and 0329, the inputted PTS values are used to synchronize and the reduced data and the non reduced data).

Regarding claim 18, Hanamura teaches the transcoder and synchronizer are adapted so that transcoding and the synchronizing are performed on a section-by-section basis, each section having continous PTS values (see figure 116, paragraphs 0434, 0441, and 0447 where the prior art teaches number of frames are transcoded in section with PTS values assigned to each).

Claim 20 is rejected for the same reasons as discussed in claim 11 above.

8. Claims 12, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanamura in view of Kato and further in view of Official Notice.

Regarding claim 12, although Hanamura discloses a storage medium having transcoding coding, Hanamura fails to disclose recording the outputted packetized digital A/V stream to a recording medium. Official Notice is taken that it is notoriously well known to connect the Hanamura's multiplexer, 620, to a digital recording device to record the lowered bit rate stream in to a recording medium. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above combination by adding a recording device to record the digital stream in to the digital recording medium in order to produce the digital stream multiple times.

Regarding claim 21, the limitation of claim 21 can be found in claims 12 and 14. Therefore claim 21 is analyzed and rejected for the same reason as discussed in claims 12 and 14 above.

Regarding claim 22, although Hanamura discloses transmitting the packetized digital A/V stream, Hanamura fails to specifically teach a transmitter configured to transmit the stream of data to a client computer through a communication network. Official Notice is taken that it is notoriously well known in the data transmitting and receiving art to transmit packetized transport stream to a client computer using communication network. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above combination by transmitting the packetized stream to a computer via a network in order to create a more cost-effective interactive video system that eliminates location constraints.

9. Claims 1-4, 6, 10-11, 13-18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanamura (US PG PUB 2001/0033619 A1) in view of Lyons (US Pat. No. 6, 061, 399).

Regarding claim 1, Hanamura teaches a method for transcoding an audio/video (A/V) stream, the method comprising: dividing a compressed digital A/V stream into audio and video data (see demultiplexer 610 in figure 1 where the prior art shows the audio, the video, and the other data are demultiplexed); transcoding the divided video data (see unit 640 where the video data is only transcoded after demultiplexing the inputted transport stream); synchronizing the divided audio data with the transcoded video data (see paragraphs 0280, 0314, 0325, and figure 9 where the prior art teaches

the non reduction Ts packet is an audio data and the transcoded video data is synchronized with the non reduction TS packet) by matching Presnentation Time Stamps (PTSs) of audio and video data (see the response above and (see paragraphs 0244, 0320, and 0325 audio and video are synchronized by matching the value of audio and video PTSs); and packetizing the synchronized audio and video data into a digital A/V stream (see figure 1 where it shows, MPEG-2 TS multiplexer 620, the audio and the transcoded video multiplexed and MPEG-2 transport stream is outputted, see also figure 6 and paragraph 0330).

Claim 1 differs from Hanamura in that the claim further requires assigning a new PTS value for the audio data based on the video data.

In the same field of endeavor Lyons teaches video and audio PTS retiming components where new PTS values are assigned to audio and video data (see figure 1 and col. 3 lines 64-col. 4 line 49). Therefore in light of the teaching in Lyons it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hanamura by assigning new value to the audio data in order to align the video data with the audio data.

Regarding claim 2, Hanamura teaches the transcoding comprises reducing a bit rate of the video data (see figure 5, paragraphs 245, 255 and 280 where the prior art teaches the output bit rate is reduced, see also figure 6 where the prior art shows the video data goes to the process of transcoding where the bit rate of the video data is reduced).

Note to the Applicant: The USPTO considers the Applicant's "or" and "at least one" language to be anticipated by any reference containing one of the subsequent corresponding elements.

Regarding claim 3, Hanamura teaches the bit rate of the video data is reduced by reducing a frame size and a frame rate of the video data (see paragraphs 0265 and 0312, the size and the rate of the video data are reduced).

Regarding claim 4, Hanamura teaches the digital A/V stream is compressed based on an MPEG standard (see figure 1 where the prior art shows MPEG-2 TS is inputted and outputted).

Regarding claim 6, Hanamura discloses original PTSs of video data before the video data is transcoded are used for the transcoded video data (see paragraphs 0325 and 0329, the PTS located at the header of the inputted video stream is used for the transcoded data).

Regarding claim 10, Hanamura discloses temporarily storing the divided audio data before synchronizing the divided audio data with the transcoded video data (see the non reduction buffer 230 in figure 6 and paragraphs 0285 and 0314).

Regarding claim 11, Hanamura discloses a size of a buffer for temporarily storing the audio data is determined based on both a time required to transcode the video data and a bit rate of the audio data (see paragraphs 0408, 0418, and 0420 where the prior art teaches the measuring the volume of the audio buffer is measured by transcoding time and the rate of the audio data).

Regarding claim 13, Hanamura discloses transmitting the packetized digital A/V stream (see paragraph 0279 and last three lines of claim 14, the output packets are t transmitted through transmitting path).

Regarding claim 14, Hanamura teaches receiving the compressed digital A/V stream is via a digit al broadcast (see paragraph 0268).

Regarding claim 15, Hanamura discloses an apparatus for transcoding a digital audio/video (A/V) stream, the apparatus comprising: a demultiplexer configured to divide a compressed digital A/V stream into audio and video data (see demultiplexer 210 in figure 6 where the prior art shows the non-reduction buffer (audio), and the video are demultiplexed); a buffer configured to temporarily store the divided audio data (see non reduction buffer 230 in figure 6); a transcoder configured to transcode the divided video data (see video ES transcoder 244 in figure 6); a synchronizer configured to synchronize the divided audio data with the transcoded video data see paragraphs 0280, 0314, 0325, and figure 9 where the prior art teaches the non reduction Ts packet is an audio data and the transcoded video data is synchronized with the non reduction TS packet) by matching Presentation Time Stamps (PTSs) of the audio and video data (see the above response and rejection of claim 1 above); and a packetizer configured to packetize the synchronized audio and video data into a digital A/V stream (see paragraphs 0330 and figure 6, MPEG-2 TS multiplexer 220, the audio and the transcoded video multiplexed and MPEG-2 TS is outputted).

Claim 15 differs from Hanamura in that the claim further requires assigning a new PTS value for the audio data based on the video data.

In the same field of endeavor Lyons teaches video and audio PTS retiming components where new PTS values are assigned to audio and video data (see figure 1 and col. 3 lines 64-col. 4 line 49). Therefore in light of the teaching in Lyons it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hanamura by assigning new value to the audio data in order to align the video data with the audio data.

Regarding claim 16, the limitation of claim 16 can be found in claims 2 and 3 above. Therefore claim 16 is analyzed and rejected for the same reasons as discussed in claims 2 and 3.

Regarding claim 17, Hanamura discloses original PTSs of the video data before the video data is transcoded are arranged to synchronize the divided audio data with the transcoded video data (see paragraphs 0325 and 0329, the inputted PTS values are used to synchronize and the reduced data and the non reduced data).

Regarding claim 18, Hanamura teaches the transcoder and synchronizer are adapted so that transcoding and the synchronizing are performed on a section-by-section basis, each section having continous PTS values (see figure 116, paragraphs 0434, 0441, and 0447 where the prior art teaches number of frames are transcoded in section with PTS values assigned to each).

Claim 20 is rejected for the same reasons as discussed in claim 11 above.

10. Claims 12, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanamura in view of Lyons and further in view of Official Notice.

Regarding claim 12, although Hanamura discloses a storage medium having transcoding coding, Hanamura fails to disclose recording the outputted packetized digital A/V stream to a recording medium. Official Notice is taken that it is notoriously well known to connect the Hanamura's multiplexer, 620, to a digital recording device to record the lowered bit rate stream in to a recording medium. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above combination by adding a recording device to record the digital stream in to the digital recording medium in order to produce the digital stream multiple times.

Regarding claim 21, the limitation of claim 21 can be found in claims 12 and 14. Therefore claim 21 is analyzed and rejected for the same reason as discussed in claims 12 and 14 above.

Regarding claim 22, although Hanamura discloses transmitting the packetized digital A/V stream, Hanamura fails to specifically teach a transmitter configured to transmit the stream of data to a client computer through a communication network. Official Notice is taken that it is notoriously well known in the data transmitting and receiving art to transmit packetized transport stream to a client computer using communication network. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above combination by transmitting the packetized stream to a computer via a network in order to create a more cost-effective interactive video system that eliminates location constraints.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HELEN SHIBRU whose telephone number is (571)272-7329. The examiner can normally be reached on M-F, 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, THAI Q. TRAN can be reached on (571) 272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HELEN SHIBRU/
Examiner, Art Unit 2621
February 13, 2010